

## **Pivotal Bay Cover on Front Panel of Computer Chassis**

### **Field of the Invention**

The present invention relates to the design of a bay cover on the front panel of a computer chassis, more particularly a pivotal bay cover on a front panel of a computer  
5 chassis that allows users to install or remove computer peripherals quickly without removing the front panel and the bay cover.

### **Description of the Prior Art**

10 The technology nowadays is changing day after day, and all economic developments seem to have very close correlation with production speed and implementation capability. Efficient devices that can save more time and work faster are most welcome, and thus computer and its peripherals have become indispensable to our daily work, which have a direct impact to us even if the computer system crashes  
15 for a short while. It shows that people rely on computers very much.

With the continuous innovative development of technologies, the speed of upgrading computer peripherals and equipments tend to be faster. For example, a user needs to replace a low-speed VCD drive with a high-speed VCD drive or a DVD drive, or add another hard disk with more memory capacity, etc. For these upgrades,  
20 it is necessary to open the computer chassis for the installation. If a user needs to change or install a hardware device that does not involve any panel operation, the user just needs to open the chassis and mounts the equipment onto the rack inside the chassis, and finally connects the power and bus cable to complete the installation.

If a user needs to install or change a hardware device such as a VCD drive or a detachable hard disk drive that involves panel operation, it is necessary to remove the  
25 front panel 1. Since the front panel 1 comprises a plurality of bay slots 11, a bay

cover 12 for covering the surface of the bay slot 11 and preventing foreign substance or dust. Therefore, if it is necessary to expose the operating panel of such device on the front panel 1, the bay cover 12 corresponding to such device must be removed. Therefore, in addition to the foregoing installation procedure for device that does not  
5 involve panel operation, it also requires the procedure of removing and reinstalling the front panel 1 and the bay cover 12 (as shown in FIG. 1). Such repeated removing and reinstalling procedure is a waste of time. Furthermore, the bay cover 12 may be lost easily if it is removed and not used for a long time, and the evenness and artistic look of the front panel may also be affected.

10 In view of the aforementioned shortcomings of the prior-art front panel of computer chassis, the inventor of this invention based on years of experience in the related industry to performed extensive research and development, and finally invented a pivotal bay cover on the front panel of a computer chassis in accordance with this invention. This invention allows users to install or remove computer peripherals  
15 without removing the front panel and the bay cover.

### **Summary of the Invention**

It is an object of the present invention to provide a pivotal bay cover on the front panel of a computer chassis that allows users to install or remove computer peripherals  
20 quickly without removing the front panel and the bay cover.

It is another object of the present invention to provide a pivotal bay cover on front panel of computer chassis that can prevent dust and maintain the even and stylish appearance of the front panel.

To achieve the foregoing objects, the pivotal bay cover of the front panel of a  
25 computer chassis in accordance with the present invention is used to cover a corresponding bay slot on the front panel, wherein the bay cover and the front panel

respectively comprise an axle and an axle hole on the same side for pivotally coupling the bay cover with the front panel, such that computer peripherals can be installed or removed quickly without removing the front panel and the bay cover.

To make it easier for our examiner to understand the objective of the invention, its  
5 structure, innovative features, and performance, we use a preferred embodiment together with the attached drawings for the detailed description of the invention.

### **Brief Description of Drawings**

Figure 1 is a perspective view of the disassembled parts of the front panel of the  
10 computer chassis according to a prior art.

Figure 2 is a perspective view of the disassembled parts of the structure of the present invention.

Figure 3 is a perspective view of the assembled structure of the present invention.

Figure 4 is a cross-sectional diagram of the assembled structure of the present  
15 invention.

Figure 5 is an illustrative diagram of a preferred embodiment of the present invention.

Figure 6 is another illustrative diagram of a preferred embodiment of the present  
20 invention.

### **Description of The Preferred Embodiment**

Please refer to Figures 2 and 3 for the disassembled parts of the structure and the assembled structure of the present invention respectively. In the figures, the pivotal bay cover on the front panel of a computer chassis in accordance with the present  
25 invention comprises a front panel 2 and a bay cover 3, and the bay cover 3 covers the bay slot 21 of the front panel 2; wherein the front panel 2 at one side of its bay slot 21

respectively has upper and lower symmetrical axle arms 22 extending outward, and two axle arms 22 respectively has a protruded axle 23 disposed on the corresponding surface at the free end of the two axle arm 22; and the bay cover 3, being slightly curved convexly outside and concavely inside for covering the exposed surface around the computer peripherals, and has an upper and a lower symmetric and inwardly concave groove 31 disposed on one side of the axle arm 22 of the bay slot 21 for letting the free end of the axle arm 22 be extended and clamped into the groove 31 at the side of the bay cover 3, and the bottom surface of the two grooves 31 respectively has an axle hole 32 for pivotally coupling the corresponding protruded axle 23, and the other end of the bay cover 3 has a substantial U-shaped bracket 33 for latching with the bay slot 21 as shown in Figures 4 and 5.

By means of the foregoing structure, the axle hole 32 of the bay cover 3 and the protruded axle 23 of the bay slot 21 of the front panel 2 are correspondingly and pivotally coupled on the same side, such that the bay cover 3 can be movably opened and closed onto the front panel 2. The bay cover can also fully cover the area of the bay slot 21 of the front panel 2, and the bracket 33 on the other side of the bay cover 3 is latched onto the side corresponding to the bay slot 21 as shown in Figure 6. If a user wants to open the bay cover 3, the user just needs to press the bracket 33 and pulls out the bay cover 3 as shown in Figure 5, so that the bay slot 21 is exposed for inserting computer peripherals.

When a computer peripheral is installed, users only need to open the computer chassis, and user fingers to press the bracket 33 and pull out the bay cover 3, such that the bay slot 21 will be exposed for inserting computer peripherals. After the computer peripheral is inserted into the bay slot 21, the computer peripheral can be mounted directly onto the rack inside the chassis, and then the power supply and bus cables (not shown in the figure) are connected to complete the installation. The bay

cover 3 is reinstalled in a reverse direction back onto the bay slot 21 of the front panel 2, and the exposed surface of the peripheral is covered by the concave surface of the bay cover 3. The bay cover 3 not only prevents foreign substances or dust, but also saves time for the installation without removing and installing the front panel 2 and the bay cover 3. Users do not have to worry about losing the bay cover 3 after it has been removed and not used for a long time; and the evenness and artistic look of the front panel 2 will not be affected. Therefore, the present invention achieves the effect of installing or removing computer peripherals quickly without removing the front panel and the bay slot.

In summation of the above description, the present invention herein enhances the performance than the conventional front panel and bay cover of the computer chassis and further complies with the patent application requirements and is submitted to the Patent and Trademark Office for review and granting of the commensurate patent rights.

While the invention has been described by way of example and in terms of a preferred embodiment, it is to be understood that the invention is not limited thereto. To the contrary, it is intended to cover various modifications and similar arrangements and procedures, and the scope of the appended claims therefore should be accorded the broadest interpretation so as to encompass all such modifications and similar arrangements and procedures.